



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Application No.: 10/771,692
Filing Date: February 4, 2004
Applicant: PARK, Edward H.
Group Art Unit: 3673
Examiner: PICKARD, Alison K.
Title: DYNAMIC SEAL USING VULCANIZATION OF
FLUOROCARBON ELASTOMERS
Attorney Docket: 03-0052 (8470-000016)

Mail Stop RCE
Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant hereby submits an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION

The patents, publications and other information requested to be considered by the Office (except unpublished U.S. patent applications) are listed on Form 1449 attached hereto.

II. COPIES

A. ☒ Submitted herewith is a legible copy of (i) each foreign patent; (ii) each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office; (iii) each unpublished U.S. application listed below in Section IV (i.e., including the specification, claims, and any drawing of the application, or that portion of the application which caused it to be listed, including any claims directed to that portion), except for such applications filed on or after June 30, 2003, pursuant to the Waiver of the Copy Requirement in 37 C.F.R. 1.98 (OG Notice dated

October 19, 2004); and (iv) all other information or that portion which caused it to be listed.

B. ☐ Any patents, publications or other information which are listed on Form 1449 or on the copies of PTO-892, but which are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Serial Number

U.S. Filing Date

C. ☐ This is a PCT application in the entry of the National Phase in the United States. A copy of the International Search Report is attached for the Examiner's information. The documents listed on the International Search report are listed on the attached Form 1449 for consideration by the Examiner and for listing on any patent resulting from this application. If the International Search report was from the US, EPO, or JPO search authorities, copies of these references should have been supplied to the USPTO under the trilateral agreement and are believed to be in the file of the above-identified application. (MPEP 1893.03(g).)

III. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

A. ☒ Except as may be indicated below in (B), all of the patents, publications or other information are in the English language (concise explanation not required).

B. ☐ A concise explanation of the relevance of each patent, publication or other information listed that is not in the English language is as follows (see 37 C.F.R. § 1.98(a)(3)):

1. ☐ See the attached foreign patent office communication from a counterpart foreign application:

2. ☐ English translations are provided:

3. ☐ Other:

C. ☒ The following additional information is provided for the Examiner's consideration:

Enclosed is a copy of the May 25, 2005 European Search Report in EP Application No. 05001398.6, which claims the benefit of the above-captioned U.S. patent application.

Also enclosed for the Examiner's consideration are copies of the Office Actions issued in related co-pending patent applications as indicated below:

U.S. Patent Application Serial No. 10/463,801 – OA Mailed 7/15/2005
U.S. Patent Application Serial No. 10/463,801 – OA Mailed 12/9/2005
U.S. Patent Application Serial No. 10/463,801 – OA Mailed 5/11/2006
U.S. Patent Application Serial No. 10/620,213 – OA Mailed 3/22/2005
U.S. Patent Application Serial No. 10/873,084 – OA Mailed 10/18/2006
U.S. Patent Application Serial No. 10/771,693 – OA Mailed 3/21/2006
U.S. Patent Application Serial No. 10/813,527 – OA Mailed 9/9/2005
U.S. Patent Application Serial No. 10/813,527 – OA Mailed 3/9/2006
U.S. Patent Application Serial No. 11/167,458 – OA Mailed 10/20/2006
U.S. Patent Application Serial No. 10/424,642 – OA Mailed 12/13/2005
U.S. Patent Application Serial No. 10/760,662 – OA Mailed 12/14/2005
U.S. Patent Application Serial No. 10/760,662 – OA Mailed 6/13/2006

IV. CROSS REFERENCE TO RELATED APPLICATION(S)

A. ☒ The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this(these) application(s) to the Examiner's attention, Applicant(s) does (do) not waive the confidentiality provisions of 35 U.S.C. § 122.

<u>Serial No.</u>	<u>Filing Date</u>	<u>Art Unit</u>
11/170,611	6/29/2005	1713
11/167458	6/27/2005	3673
11/171720	6/30/2005	1711
11/332872	1/13/2006	1711

V. THIS IDS IS BEING FILED UNDER

A. ☒ **37 C.F.R. § 1.97(b):** (check only one box)

1. ☐ within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. § 1.97(b)(1)). No fee or certification is required.
2. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or certification is required.
3. ☐ before the mailing of a first Office Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or certification is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the certification under 37 C.F.R. §

1.97(e) below; or, if no certification has been made, charge our deposit account a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

4. ☒ before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No fee or certification is required.

B. ☐ **37 C.F.R. § 1.97(c):** (check only one box)

before the mailing date of either any Final Office Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution.

1. ☐ No certification; therefore, a fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

2. ☐ See the certification below. No fee is required.

C. ☐ **37 C.F.R. § 1.97(d):**

after the mailing date of either a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, yet on or before payment of the issue fee.

1. ☐ See the certification below. A fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

VI. **CERTIFICATION UNDER 37 C.F.R. § 1.97(e):** (check only one box)

The undersigned hereby certifies that:

A. ☐ each item of information contained in this IDS was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(1)). See further statement under 37 C.F.R. 1.704(d) below in section VII, if applicable; or

B. ☐ no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(2)).

C. ☐ some of the items of information were first cited in a communication from a foreign patent office. As to this information, the undersigned hereby certifies that

each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS.

VII. STATEMENT UNDER 37 C.F.R. 1.704(d)

The undersigned hereby states that:

☐ each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this IDS.

VIII. PAYMENT OF FEES (check only one box, if applicable)

A. ☐ A check in the amount of \$180.00 is enclosed for the above-identified fee.

B. ☐ Please charge Deposit Account No. 08-0750 in the amount of \$180.00 for the above-identified fee. A duplicate copy of this paper is attached.


Please charge any additional fees or credit any overpayment pursuant to 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 08-0750.

The above references are being cited only in the interest of candor and without any admission that they constitute statutory prior art, contain matter which anticipates the invention, or which would render the same obvious, either singly or in combination, to a person of ordinary skill in the art. Furthermore, this Information Disclosure Statement shall not be construed as a representation that a search has been made.

If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 08-0750.

Respectfully submitted,

Dated: November 29, 2006

By: 
David L. Suter
Reg. No. 30,692

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Fax: (734) 451-1445

DLS/sem



FORM P-1449 (Based on Form PTO-1449)

**PATENT AND TRADEMARK OFFICE
INFORMATION DISCLOSURE CITATION**
(Use several sheets if necessary)

Sheet 1 of 6

ATTORNEY DOCKET NO.	SERIAL No.
03-0052 (8470-000016)	10/771,692
APPLICANT	
PARK, Edward H.	
FILING DATE	GROUP
February 4, 2004	3673

U.S. PATENT DOCUMENTS

Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
1.		2,710,290	6/7/1955	Safford et al.		
2.		2,927,908	3/8/1960	Konkle et al.		
3.		2002/0091205	7/11/2002	Brewer et al.		
4.		2002/0099142	7/25/2002	Faulkner		
5.		2002/0113066	8/22/2002	Stark et al.		
6.		2002/0198320	12/26/2002	Chmielewski et al.		
7.		2003/0026995	2/6/2003	Duchesne et al.		
8.		2003/0138655	7/24/2003	Watanabe et al.		
9.		2004/0183702	9/23/2004	Nachtigal et al.		1/20/2004
10.		2004/0260023	12/23/2004	Park et al.		6/17/2003
11.		2005/0171282	8/4/2005	Park		2/4/2004
12.		2005/0272872	12/8/2005	Park		7/15/2003
13.		2005/0275565	12/15/2005	Nachtigal et al.		4/28/2003
14.		2005/0288434	12/29/2005	Sugiura et al.		3/27/2003
15.		3,037,954	6/5/1962	Gessler et al.		
16.		3,538,028	11/3/1970	Morgan		
17.		3,787,341	1/22/1974	Aron		
18.		4,035,565	7/12/1977	Apotheker et al.		
19.		4,202,555	5/13/1980	Becker et al.		
20.		4,287,320	9/1/1981	Kolb		
21.		4,311,628	1/19/1982	Abdou-Sabet et al.		

Examiner:

Date Considered:

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM HDP-1449 (Based on Form PTO-1449) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) Sheet 2 of 6	ATTORNEY DOCKET NO.	SERIAL No.
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	APPLICANT	
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U.S. PATENT DOCUMENTS						
Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
22.		4,328,140	5/4/1982	Singletary et al.		
23.		4,386,170	5/31/1983	Monroe		
24.		4,419,499	12/6/1983	Coran et al.		
25.		4,450,263	5/22/1984	West		
26.		4,530,881	7/23/1985	Santoso et al		
27.		4,553,761	11/19/1985	Blesing et al.		
28.		4,572,516	2/25/1986	Symons et al.		
29.		4,596,855	6/24/1986	Stewart		
30.		4,624,978	11/25/1986	Frayar		
31.		4,656,228	4/7/1987	Richter et al.		
32.		4,696,976	9/29/1987	Ellerbe III et al.		
33.		4,696,989	9/29/1987	Oka et al.		
34.		4,787,991	11/29/1988	Morozumi et al.		
35.		5,018,749	5/28/1991	Forch		
36.		5,095,072	3/10/1992	Kobayashi et al.		
37.		5,217,137	6/8/1993	Andrews		
38.		5,219,931	6/15/1993	Siol et al.		
39.		5,331,040	7/19/1994	Lee		
40.		5,354,811	10/11/1994	Kamiya et al.		
41.		5,370,404	12/6/1994	Klein et al.		

Examiner:	Date Considered:
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U.S. PATENT DOCUMENTS						
Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
42.		5,384,374	1/24/1995	Guerra et al.		
43.		5,397,832	3/14/1995	Ellul		
44.		5,427,387	6/27/1995	Johnston		
45.		5,548,028	8/20/1996	Tabb		
46.		5,585,152	12/17/1996	Tamura et al.		
47.		5,700,866	12/23/1997	Tabb		
48.		5,713,577	2/3/1998	Lannert et al.		
49.		5,723,544	3/3/1998	Lee		
50.		5,758,881	6/2/1998	Stanley		
51.		5,962,589	10/5/1999	Matsumoto et al.		
52.		6,066,697	5/23/2000	Coran et al.		
53.		6,147,158	11/14/2000	Chmielewski		
54.		6,162,385	12/19/2000	Grosse-Puppendahl et al.		
55.		6,310,141	10/30/2001	Chen et al.		
56.		6,312,639	11/6/2001	Ertle et al.		
57.		6,407,174	6/18/2002	Ouhadi		
58.		6,409,177	6/25/2002	Johnston		
59.		6,410,630	6/25/2002	Hoover et al.		
60.		6,429,249	8/6/2002	Chen et al.		
61.		6,437,030	8/20/2002	Coran et al.		

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FORM HDP-1449 (Based on Form PTO-1449) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) Sheet 4 of 6	ATTORNEY DOCKET NO.		SERIAL No.
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U.S. PATENT DOCUMENTS						
Ref. Desig.	Examiner's Initials	Document Number	Date	Name	Class/ Subclass	(If appropriate) Filing Date
62.		6,500,374	12/31/2002	Akioka et al.		
63.		6,624,251	9/23/2003	Chmielewski		
64.		6,649,217	11/18/2003	Gust		
65.		6,656,831	12/2/2003	Lee et al.		
66.		6,663,966	12/16/2003	Mhetar		
67.		6,729,624	5/4/2004	Johnston		2/20/2001
68.		6,774,171	8/10/2004	Kassa et al.		1/9/2003
69.		6,860,486	3/1/2005	Hacker et al.		11/5/2002
70.		6,872,325	3/29/2005	Bandyopadhyay et al.		9/9/2002
71.		7,098,270	8/29/2006	Hochgesang et al.		9/10/2002

FOREIGN PATENT DOCUMENTS							
Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/ Subclass	Translation Yes	No
1.		JP 2001-336679	12/7/2001	Japan		Abstract	
2.		JP 62-236841	10/16/1987	Japan		Abstract	
3.		JP 05-186606	7/27/1993	Japan		Abstract	
4.		JP 2000-079928	3/21/2000	Japan		Abstract	
5.		JP 58-032655	2/25/1983	Japan		Abstract	
6.		JP 62-011767	1/20/1987	Japan		Abstract	
7.		WO 00/11073	3/2/2000	WIPO		N/A	

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FORM HDP-1449 (Based on Form PTO-1449) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) Sheet 5 of 6	ATTORNEY DOCKET NO.	SERIAL No.
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	APPLICANT	
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	February 4, 2004	3673

FOREIGN PATENT DOCUMENTS							
Ref. Desig.	Examiner's Initials	Document Number	Date	Country	Class/ Subclass	Translation Yes	No
8.		WO 01/98405	12/27/2001	WIPO		N/A	
9.		WO 01/48077	7/5/2001	WIPO		N/A	
10.		WO 02/070929	9/12/2002	WIPO		N/A	
11.		EP 0148719	7/17/1985	EPO		N/A	
12.		EP 0168020	10/18/1989	EPO		N/A	
13.		EP 0239707	10/7/1987	EPO		Abstract	
14.		EP 0254307	12/27/1991	EPO		N/A	
15.		EP 0304843	3/3/1993	EPO		N/A	
16.		EP 0356619	3/7/1990	EPO		Abstract	
17.		EP 0431325	6/12/1991	EPO		Abstract	
18.		EP 0432911	6/19/1991	EPO		N/A	
19.		EP 0681113	11/8/1995	EPO		N/A	
20.		EP 0714944	6/5/1996	EPO		Abstract	
21.		EP 1046841	10/25/2000	EPO		Abstract	
22.		EP 1209203	5/29/2002	EPO		N/A	

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)		
Ref. Desig.	Examiner's Initials	
1.		"Fluorine-Containing Polymers" Encyclopedia of Polymer Science & Engineering, Vol. 7, Second Edition (1987). (Pages 256-267).

Examiner:	Date Considered:
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OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)		
Ref. Desig.	Examiner's Initials	
2.		"Polyurethanes" Encyclopedia of Polymer Science & Engineering, Vol. 13, Second Edition (Date Unknown). (Pages 274-278).
3.		Webpage: "Dyneon™ Fluorothermoplastics" Accessed from 3M Manufacturing and Industrial and Downloaded May 8, 2003. (2 pages).
4.		"Viton® Fluoroelastomer, A Product of DuPont Dow Elastomers", Technical Information, DuPont Dow Elastomers, Copyright 1988.
5.		"AFLAS™ The Fluoroelastomer," Asahi Glass Company, Product Information, April 11, 2003. (8 pages).
6.		Webpage: "Tetrafluoroethylene-Propylene Rubber, Date Unknown. (3 pages).
7.		Schmiegel, Walter W., "A Review of Recent Progress in the Design and Reactions of Base-Resistant Fluoroelastomers", DuPont Dow Elastomers, IRC, July 2003.
8.		Moore, Michael J. "Silanes as Rubber-to-Metal Bonding Agents," 160th Meeting of the Rubber Division, American Chemical Society, Cleveland, Ohio, Paper No. 105, (2001). (17 pages).
9.		Viton® Fluoroelastomer: Viton Extreme ETP-600S Technical Information (Formerly designated VTR-8710), DuPont Dow Elastomers (Date Unknown). (6 pages).
10.		Material Safety Data Sheet "DuPont™ TPV 60A01 and 80A01", C.S. Wong, (September 18, 2001). (9 pages).
11.		DuPont "Grades for Customer Evaluation" - TPV 60A and TPV 80A." (3 pages).
12.		Solvay Solexis: "Product Data Sheet: Tecnoflon FPA 1" available at www.solvaysolexis.com . Copyright 2003. (2 pages).
13.		Sasol: Sasol Olefins and Surfactants available at www.sasoltechdata.com . (20 pages).

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